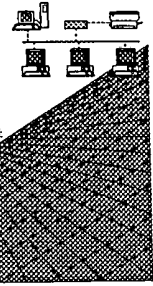


RAW SEQUENCE LISTING **ERROR REPORT**

0200
BIOTECHNOLOGY
SYSTEMS
BRANCH



The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following CRF diskette:

Application Serial Number: 09/585,077
Art Unit / Team No. : OIPK
Date Processed by STIC: 6/14/2000

THE ATTACHED PRINTOUT EXPLAINS THE **ERRORS DETECTED.**

PLEASE BE SURE TO FORWARD THIS INFORMATION TO THE APPLICANTS BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANTS ALONG WITH A NOTICE TO COMPLY or,
- 2) CALLING APPLICANTS AND FAXING THEM A COPY OF THE PRINTOUT WITH A NOTICE TO COMPLY

THIS WILL INSURE THAT THE NEXT SUBMISSION RECEIVED FROM THEM WILL BE ERROR FREE.

IF YOU HAVE ANY FURTHER QUESTIONS, PLEASE CALL:

MARK SPENCER 703-308-4212

OIPE

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/585,077
 DATE: 06/14/2000
 TIME: 11:51:02

Input Set : A:\CRF19-2SEQLIST.txt
 Output Set: N:\CRF3\06142000\I585077.raw

Does Not Comply
 Corrected Diskette Needed

2 <140> APPLICANT: Summar, Marshall L.
 3 Christman, Brian
 W--> 4 <120> TITLE OF INVENTION: THERAPEUTIC METHODS RELATING TO
 W--> 5 CARBAMYL PHOSPHATE SYNTHETASE I POLYMORPHISM
 W--> 6 <130> FILE REFERENCE: 1242-19-2 CIP Sequence Listing
 W--> 7 <140> CURRENT APPLICATION NUMBER:
 C--> 8 <141> CURRENT FILING DATE: 2000-06-01
 9 <150> PRIOR APPLICATION NUMBER: 09/323,472
 10 <151> PRIOR FILING DATE: 1999-06-01
 W--> 11 <160> NUMBER OF SEQ ID: 20
 12 <170> SOFTWARE: PatentIn Ver. 2.0

ERRORED SEQUENCES

440 <210> SEQ ID NO: 2
 441 <211> LENGTH: 1500
 442 <212> TYPE: PRT
 443 <213> ORGANISM: Homo sapiens
 W--> 444 <400> SEQUENCE: 2
 445 Met Thr Arg Ile Leu Thr Ala Phe Lys Val Val Arg Thr Leu Lys Thr
 446 1 5 10 15
 448 Gly Phe Gly Phe Thr Asn Val Thr Ala His Gln Lys Trp Lys Phe Ser
 449 20 25 30
 451 Arg Pro Gly Ile Arg Leu Leu Ser Val Lys Ala Gln Thr Ala His Ile
 452 35 40 45
 454 Val Leu Glu Asp Gly Thr Lys Met Lys Gly Tyr Ser Phe Gly His Pro
 455 50 55 60
 457 Ser Ser Val Ala Gly Glu Val Val Phe Asn Thr Gly Leu Gly Gly Tyr
 458 65 70 75 80
 460 Pro Glu Ala Ile Thr Asp Pro Ala Tyr Lys Gly Gln Ile Leu Thr Met
 461 85 90 95
 463 Ala Asn Pro Ile Ile Gly Asn Gly Gly Ala Pro Asp Thr Thr Ala Leu
 464 100 105 110
 466 Asp Glu Leu Gly Leu Ser Lys Tyr Leu Glu Ser Asn Gly Ile Lys Val
 467 115 120 125
 469 Ser Gly Leu Leu Val Leu Asp Tyr Ser Lys Asp Tyr Asn His Trp Leu
 470 130 135 140
 472 Ala Thr Lys Ser Leu Gly Gln Trp Leu Gln Glu Glu Lys Val Pro Ala
 473 145 150 155 160
 475 Ile Tyr Gly Val Asp Thr Arg Met Leu Thr Lys Ile Ile Arg Asp Lys
 476 165 170 175
 478 Gly Thr Met Leu Gly Lys Ile Glu Phe Glu Gly Gln Pro Val Asp Phe
 479 180 185 190
 481 Val Asp Pro Asn Lys Gln Asn Leu Ile Ala Glu Val Ser Thr Lys Asp
 482 195 200 205
 484 Val Lys Val Tyr Gly Lys Gly Asn Pro Thr Lys Val Val Ala Val Asp

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/585,077

DATE: 06/14/2000
 TIME: 11:51:02

Input Set : A:\CRF19-2SEQLIST.txt
 Output Set: N:\CRF3\06142000\I585077.raw

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485      210      215      220
487 Cys Gly Ile Lys Asn Asn Val Ile Arg Leu Leu Val Lys Arg Gly Ala
488 225      230      235      240
490 Glu Val His Leu Val Pro Trp Asn His Asp Phe Thr Lys Met Glu Tyr
491      245      250      255
493 Asp Gly Ile Leu Ile Ala Gly Gly Pro Gly Asn Pro Ala Leu Ala Glu
494      260      265      270
496 Pro Leu Ile Gln Asn Val Arg Lys Ile Leu Glu Ser Asp Arg Lys Glu
497      275      280      285
499 Pro Leu Phe Gly Ile Ser Thr Gly Asn Leu Ile Thr Gly Leu Ala Ala
500      290      295      300
502 Gly Ala Lys Thr Tyr Lys Met Ser Met Ala Asn Arg Gly Gln Asn Gln
503 305      310      315      320
505 Pro Val Leu Asn Ile Thr Asn Lys Gln Ala Phe Ile Thr Ala Gln Asn
506      325      330      335
508 His Gly Tyr Ala Leu Asp Asn Thr Leu Pro Ala Gly Trp Lys Pro Leu
509      340      345      350
511 Phe Val Asn Val Asn Asp Gln Thr Asn Glu Gly Ile Met His Glu Ser
512      355      360      365
514 Lys Pro Phe Phe Ala Val Gln Phe His Pro Glu Val Thr Pro Gly Pro
515      370      375      380
517 Ile Asp Thr Glu Tyr Leu Phe Asp Ser Phe Phe Ser Leu Ile Lys Lys
518 385      390      395      400
520 Gly Lys Ala Thr Thr Ile Thr Ser Val Leu Pro Lys Pro Ala Leu Val
521      405      410      415
523 Ala Ser Arg Val Glu Val Ser Lys Val Leu Ile Leu Gly Ser Gly Gly
524      420      425      430
526 Leu Ser Ile Gly Gln Ala Gly Glu Phe Asp Tyr Ser Gly Ser Gln Ala
527      435      440      445
529 Val Lys Ala Met Lys Glu Glu Asn Val Lys Thr Val Leu Met Asn Pro
530      450      455      460
532 Asn Ile Ala Ser Val Gln Thr Asn Glu Val Gly Leu Lys Gln Ala Asp
533 465      470      475      480
535 Thr Val Tyr Phe Leu Pro Ile Thr Pro Gln Phe Val Thr Glu Val Ile
536      485      490      495
538 Lys Ala Glu Gln Pro Asp Gly Leu Ile Leu Gly Met Gly Gly Gln Thr
539      500      505      510
541 Ala Leu Asn Cys Gly Val Glu Leu Phe Lys Arg Gly Val Leu Lys Glu
542      515      520      525
544 Tyr Gly Val Lys Val Leu Gly Thr Ser Val Glu Ser Ile Met Ala Thr
545      530      535      540
547 Glu Asp Arg Gln Leu Phe Ser Asp Lys Leu Asn Glu Ile Asn Glu Lys
548 545      550      555      560
550 Ile Ala Pro Ser Phe Ala Val Glu Ser Ile Glu Asp Ala Leu Lys Ala
551      565      570      575
553 Ala Asp Thr Ile Gly Tyr Pro Val Met Ile Arg Ser Ala Tyr Ala Leu
554      580      585      590
556 Gly Gly Leu Gly Ser Gly Ile Cys Pro Asn Arg Glu Thr Leu Met Asp
557      595      600      605

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/585,077

DATE: 06/14/2000

TIME: 11:51:02

Input Set : A:\CRF19-2SEQLIST.txt

Output Set: N:\CRF3\06142000\I585077.raw

```

559 Leu Ser Thr Lys Ala Phe Ala Met Thr Asn Gln Ile Leu Val Glu Lys
560      610      615      620
562 Ser Val Thr Gly Trp Lys Glu Ile Glu Tyr Glu Val Val Arg Asp Ala
563 625      630      635      640
565 Asp Asp Asn Cys Val Thr Val Cys Asn Met Glu Asn Val Asp Ala Met
566      645      650      655
568 Gly Val His Thr Gly Asp Ser Val Val Val Ala Pro Ala Gln Thr Leu
569      660      665      670
571 Ser Asn Ala Glu Phe Gln Met Leu Arg Arg Thr Ser Ile Asn Val Val
572      675      680      685
574 Arg His Leu Gly Ile Val Gly Glu Cys Asn Ile Gln Phe Ala Leu His
575      690      695      700
577 Pro Thr Ser Met Glu Tyr Cys Ile Ile Glu Val Asn Ala Arg Leu Ser
578 705      710      715      720
580 Arg Ser Ser Ala Leu Ala Ser Lys Ala Thr Gly Tyr Pro Leu Ala Phe
581      725      730      735
583 Ile Ala Ala Lys Ile Ala Leu Gly Ile Pro Leu Pro Glu Ile Lys Asn
584      740      745      750
586 Val Val Ser Gly Lys Thr Ser Ala Cys Phe Glu Pro Ser Leu Asp Tyr
587      755      760      765
589 Met Val Thr Lys Ile Pro Arg Trp Asp Leu Asp Arg Phe His Gly Thr
590      770      775      780
592 Ser Ser Arg Ile Gly Ser Ser Met Lys Ser Val Gly Glu Val Met Ala
593 785      790      795      800
595 Ile Gly Arg Thr Phe Glu Glu Ser Phe Gln Lys Ala Leu Arg Met Cys
596      805      810      815
598 His Pro Ser Ile Glu Gly Phe Thr Pro Arg Leu Pro Met Asn Lys Glu
599      820      825      830
601 Trp Pro Ser Asn Leu Asp Leu Arg Lys Glu Leu Ser Glu Pro Ser Ser
602      835      840      845
604 Thr Arg Ile Tyr Ala Ile Ala Lys Ala Ile Asp Asp Asn Met Ser Leu
605      850      855      860
607 Asp Glu Ile Glu Lys Leu Thr Tyr Ile Asp Lys Trp Phe Leu Tyr Lys
608 865      870      875      880
610 Met Arg Asp Ile Leu Asn Met Glu Lys Thr Leu Lys Gly Leu Asn Ser
611      885      890      895
613 Glu Ser Met Thr Glu Glu Thr Leu Lys Arg Ala Lys Glu Ile Gly Phe
614      900      905      910
616 Ser Asp Lys Gln Ile Ser Lys Cys Leu Gly Leu Thr Glu Ala Gln Thr
617      915      920      925
619 Arg Glu Leu Arg Leu Lys Lys Asn Ile His Pro Trp Val Lys Gln Ile
620      930      935      940
622 Asp Thr Leu Ala Ala Glu Tyr Pro Ser Val Thr Asn Tyr Leu Tyr Val
623 945      950      955      960
625 Thr Tyr Asn Gly Gln Glu His Asp Val Asn Phe Asp Asp His Gly Met
626      965      970      975
628 Met Val Leu Gly Cys Gly Pro Tyr His Ile Gly Ser Ser Val Glu Phe
629      980      985      990
631 Asp Trp Cys Ala Val Ser Ser Ile Arg Thr Leu Arg Gln Leu Gly Lys

```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/585,077

DATE: 06/14/2000
TIME: 11:51:02

Input Set : A:\CRF19-2SEQLIST.txt
Output Set: N:\CRF3\06142000\I585077.raw

```

632          995          1000          1005
634 Lys Thr Val Val Val Asn Cys Asn Pro Glu Thr Val Ser Thr Asp Phe
635          1010          1015          1020
637 Asp Glu Cys Asp Lys Leu Tyr Phe Glu Glu Leu Ser Leu Glu Arg Ile
E--> 638 025 1025          1030          1035          1040
640 Leu Asp Ile Tyr His Gln Glu Ala Cys Gly Gly Cys Ile Ile Ser Val
641          1045          1050          1055
643 Gly Gly Gln Ile Pro Asn Asn Leu Ala Val Pro Leu Tyr Lys Asn Gly
644          1060          1065          1070
646 Val Lys Ile Met Gly Thr Ser Pro Leu Gln Ile Asp Arg Ala Glu Asp
647          1075          1080          1085
649 Arg Ser Ile Phe Ser Ala Val Leu Asp Glu Leu Lys Val Ala Gln Ala
650          1090          1095          1100
652 Pro Trp Lys Ala Val Asn Thr Leu Asn Glu Ala Leu Glu Phe Ala Lys
E--> 653 105 1105          1110          1115          1120
655 Ser Val Asp Tyr Pro Cys Leu Leu Arg Pro Ser Tyr Val Leu Ser Gly
656          1125          1130          1135
658 Ser Ala Met Asn Val Val Phe Ser Glu Asp Glu Met Lys Lys Phe Leu
659          1140          1145          1150
661 Glu Glu Ala Thr Arg Val Ser Gln Glu His Pro Val Val Leu Thr Lys
662          1155          1160          1165
664 Phe Val Glu Gly Ala Arg Glu Val Glu Met Asp Ala Val Gly Lys Asp
665          1170          1175          1180
667 Gly Arg Val Ile Ser His Ala Ile Ser Glu His Val Glu Asp Ala Gly
E--> 668 185 1185          1190          1195          1200
670 Val His Ser Gly Asp Ala Thr Leu Met Leu Pro Thr Gln Thr Ile Ser
671          1205          1210          1215
673 Gln Gly Ala Ile Glu Lys Val Lys Asp Ala Thr Arg Lys Ile Ala Lys
674          1220          1225          1230
676 Ala Phe Ala Ile Ser Gly Pro Phe Asn Val Gln Phe Leu Val Lys Gly
677          1235          1240          1245
679 Asn Asp Val Leu Val Ile Glu Cys Asn Leu Arg Ala Ser Arg Ser Phe
680          1250          1255          1260
682 Pro Phe Val Ser Lys Thr Leu Gly Val Asp Phe Ile Asp Val Ala Thr
E--> 683 265 1265          1270          1275          1280
685 Lys Val Met Ile Gly Glu Asn Val Asp Glu Lys His Leu Pro Thr Leu
686          1285          1290          1295
688 Asp His Pro Ile Ile Pro Ala Asp Tyr Val Ala Ile Lys Ala Pro Met
689          1300          1305          1310
691 Phe Ser Trp Pro Arg Leu Arg Asp Ala Asp Pro Ile Leu Arg Cys Glu
692          1315          1320          1325
694 Met Ala Ser Thr Gly Glu Val Ala Cys Phe Gly Glu Gly Ile His Thr
695          1330          1335          1340
697 Ala Phe Leu Lys Ala Met Leu Ser Thr Gly Phe Lys Ile Pro Gln Lys
E--> 698 345 1345          1350          1355          1360
700 Gly Ile Leu Ile Gly Ile Gln Gln Ser Phe Arg Pro Arg Phe Leu Gly
701          1365          1370          1375
703 Val Ala Glu Gln Leu His Asn Glu Gly Phe Lys Leu Phe Ala Thr Glu
704          1380          1385          1390

```

*when numbering
the first amino
acid in a line,
begin number
directly under
first letter
of amino
acid*

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/585,077

DATE: 06/14/2000

TIME: 11:51:02

Input Set : A:\CRF19-2SEQLIST.txt

Output Set: N:\CRF3\06142000\I585077.raw

706 Ala Thr Ser Asp Trp Leu Asn Ala Asn Asn Val Pro Ala Asn Pro Val
 707 1395 1400 1405
 709 Ala Trp Pro Ser Gln Glu Gly Gln Asn Pro Ser Leu Ser Ser Ile Arg
 710 1410 1415 1420
 712 Lys Leu Ile Arg Asp Gly Ser Ile Asp Leu Val Ile Asn Leu Pro Asn
 E--> 713 425 1430 1435 1440
 715 Asn Asn Thr Lys Phe Val His Asp Asn Tyr Val Ile Arg Arg Thr Ala
 716 1445 1450 1455
 718 Val Asp Ser Gly Ile Pro Leu Leu Thr Asn Phe Gln Val Thr Lys Leu
 719 1460 1465 1470
 721 Phe Ala Glu Ala Val Gln Lys Ser Arg Lys Val Asp Ser Lys Ser Leu
 722 1475 1480 1485
 724 Phe His Tyr Arg Gln Tyr Ser Ala Gly Lys Ala Ala
 725 1490 1495 1500
 1153 <210> SEQ ID NO: 4
 1154 <211> LENGTH: 1500
 1155 <212> TYPE: PRT
 1156 <213> ORGANISM: Homo sapiens
 OK 1157 <400> SEQUENCE: 4
 1158 Met Thr Arg Ile Leu Thr Ala Phe Lys Val Val Arg Thr Leu Lys Thr
 1159 1 5 10 15
 1161 Gly Phe Gly Phe Thr Asn Val Thr Ala His Gln Lys Trp Lys Phe Ser
 1162 20 25 30
 1164 Arg Pro Gly Ile Arg Leu Leu Ser Val Lys Ala Gln Thr Ala His Ile
 1165 35 40 45
 1167 Val Leu Glu Asp Gly Thr Lys Met Lys Gly Tyr Ser Phe Gly His Pro
 1168 50 55 60
 1170 Ser Ser Val Ala Gly Glu Val Val Phe Asn Thr Gly Leu Gly Gly Tyr
 1171 65 70 75 80
 1173 Pro Glu Ala Ile Thr Asp Pro Ala Tyr Lys Gly Gln Ile Leu Thr Met
 1174 85 90 95
 1176 Ala Asn Pro Ile Ile Gly Asn Gly Gly Ala Pro Asp Thr Thr Ala Leu
 1177 100 105 110
 1179 Asp Glu Leu Gly Leu Ser Lys Tyr Leu Glu Ser Asn Gly Ile Lys Val
 1180 115 120 125
 1182 Ser Gly Leu Leu Val Leu Asp Tyr Ser Lys Asp Tyr Asn His Trp Leu
 1183 130 135 140
 1185 Ala Thr Lys Ser Leu Gly Gln Trp Leu Gln Glu Glu Lys Val Pro Ala
 1186 145 150 155 160
 1188 Ile Tyr Gly Val Asp Thr Arg Met Leu Thr Lys Ile Ile Arg Asp Lys
 1189 165 170 175
 1191 Gly Thr Met Leu Gly Lys Ile Glu Phe Glu Gly Gln Pro Val Asp Phe
 1192 180 185 190
 1194 Val Asp Pro Asn Lys Gln Asn Leu Ile Ala Glu Val Ser Thr Lys Asp
 1195 195 200 205
 1197 Val Lys Val Tyr Gly Lys Gly Asn Pro Thr Lys Val Val Ala Val Asp
 1198 210 215 220
 1200 Cys Gly Ile Lys Asn Asn Val Ile Arg Leu Leu Val Lys Arg Gly Ala
 1201 225 230 235 240

8-9

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/585,077

DATE: 06/14/2000

TIME: 11:51:02

Input Set : A:\CRF19-2SEQLIST.txt

Output Set: N:\CRF3\06142000\I585077.raw

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1203 Glu Val His Leu Val Pro Trp Asn His Asp Phe Thr Lys Met Glu Tyr
1204                               245                250                255
1206 Asp Gly Ile Leu Ile Ala Gly Gly Pro Gly Asn Pro Ala Leu Ala Glu
1207                               260                265                270
1209 Pro Leu Ile Gln Asn Val Arg Lys Ile Leu Glu Ser Asp Arg Lys Glu
1210                               275                280                285
1212 Pro Leu Phe Gly Ile Ser Thr Gly Asn Leu Ile Thr Gly Leu Ala Ala
1213                               290                295                300
1215 Gly Ala Lys Thr Tyr Lys Met Ser Met Ala Asn Arg Gly Gln Asn Gln
1216 305                               310                315                320
1218 Pro Val Leu Asn Ile Thr Asn Lys Gln Ala Phe Ile Thr Ala Gln Asn
1219                               325                330                335
1221 His Gly Tyr Ala Leu Asp Asn Thr Leu Pro Ala Gly Trp Lys Pro Leu
1222                               340                345                350
1224 Phe Val Asn Val Asn Asp Gln Thr Asn Glu Gly Ile Met His Glu Ser
1225                               355                360                365
1227 Lys Pro Phe Phe Ala Val Gln Phe His Pro Glu Val Thr Pro Gly Pro
1228                               370                375                380
1230 Ile Asp Thr Glu Tyr Leu Phe Asp Ser Phe Phe Ser Leu Ile Lys Lys
1231 385                               390                395                400
1233 Gly Lys Ala Thr Thr Ile Thr Ser Val Leu Pro Lys Pro Ala Leu Val
1234                               405                410                415
1236 Ala Ser Arg Val Glu Val Ser Lys Val Leu Ile Leu Gly Ser Gly Gly
1237                               420                425                430
1239 Leu Ser Ile Gly Gln Ala Gly Glu Phe Asp Tyr Ser Gly Ser Gln Ala
1240                               435                440                445
1242 Val Lys Ala Met Lys Glu Glu Asn Val Lys Thr Val Leu Met Asn Pro
1243                               450                455                460
1245 Asn Ile Ala Ser Val Gln Thr Asn Glu Val Gly Leu Lys Gln Ala Asp
1246 465                               470                475                480
1248 Thr Val Tyr Phe Leu Pro Ile Thr Pro Gln Phe Val Thr Glu Val Ile
1249                               485                490                495
1251 Lys Ala Glu Gln Pro Asp Gly Leu Ile Leu Gly Met Gly Gly Gln Thr
1252                               500                505                510
1254 Ala Leu Asn Cys Gly Val Glu Leu Phe Lys Arg Gly Val Leu Lys Glu
1255                               515                520                525
1257 Tyr Gly Val Lys Val Leu Gly Thr Ser Val Glu Ser Ile Met Ala Thr
1258                               530                535                540
1260 Glu Asp Arg Gln Leu Phe Ser Asp Lys Leu Asn Glu Ile Asn Glu Lys
1261 545                               550                555                560
1263 Ile Ala Pro Ser Phe Ala Val Glu Ser Ile Glu Asp Ala Leu Lys Ala
1264                               565                570                575
1266 Ala Asp Thr Ile Gly Tyr Pro Val Met Ile Arg Ser Ala Tyr Ala Leu
1267                               580                585                590
1269 Gly Gly Leu Gly Ser Gly Ile Cys Pro Asn Arg Glu Thr Leu Met Asp
1270                               595                600                605
1272 Leu Ser Thr Lys Ala Phe Ala Met Thr Asn Gln Ile Leu Val Glu Lys
1273                               610                615                620
1275 Ser Val Thr Gly Trp Lys Glu Ile Glu Tyr Glu Val Val Arg Asp Ala

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RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/585,077

DATE: 06/14/2000
 TIME: 11:51:02

Input Set : A:\CRF19-2SEQLIST.txt
 Output Set: N:\CRF3\06142000\I585077.raw

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1276 625                      630                      635                      640
1278 Asp Asp Asn Cys Val Thr Val Cys Asn Met Glu Asn Val Asp Ala Met
1279                      645                      650                      655
1281 Gly Val His Thr Gly Asp Ser Val Val Val Ala Pro Ala Gln Thr Leu
1282                      660                      665                      670
1284 Ser Asn Ala Glu Phe Gln Met Leu Arg Arg Thr Ser Ile Asn Val Val
1285                      675                      680                      685
1287 Arg His Leu Gly Ile Val Gly Glu Cys Asn Ile Gln Phe Ala Leu His
1288                      690                      695                      700
1290 Pro Thr Ser Met Glu Tyr Cys Ile Ile Glu Val Asn Ala Arg Leu Ser
1291 705                      710                      715                      720
1293 Arg Ser Ser Ala Leu Ala Ser Lys Ala Thr Gly Tyr Pro Leu Ala Phe
1294                      725                      730                      735
1296 Ile Ala Ala Lys Ile Ala Leu Gly Ile Pro Leu Pro Glu Ile Lys Asn
1297                      740                      745                      750
1299 Val Val Ser Gly Lys Thr Ser Ala Cys Phe Glu Pro Ser Leu Asp Tyr
1300                      755                      760                      765
1302 Met Val Thr Lys Ile Pro Arg Trp Asp Leu Asp Arg Phe His Gly Thr
1303                      770                      775                      780
1305 Ser Ser Arg Ile Gly Ser Ser Met Lys Ser Val Gly Glu Val Met Ala
1306 785                      790                      795                      800
1308 Ile Gly Arg Thr Phe Glu Glu Ser Phe Gln Lys Ala Leu Arg Met Cys
1309                      805                      810                      815
1311 His Pro Ser Ile Glu Gly Phe Thr Pro Arg Leu Pro Met Asn Lys Glu
1312                      820                      825                      830
1314 Trp Pro Ser Asn Leu Asp Leu Arg Lys Glu Leu Ser Glu Pro Ser Ser
1315                      835                      840                      845
1317 Thr Arg Ile Tyr Ala Ile Ala Lys Ala Ile Asp Asp Asn Met Ser Leu
1318                      850                      855                      860
1320 Asp Glu Ile Glu Lys Leu Thr Tyr Ile Asp Lys Trp Phe Leu Tyr Lys
1321 865                      870                      875                      880
1323 Met Arg Asp Ile Leu Asn Met Glu Lys Thr Leu Lys Gly Leu Asn Ser
1324                      885                      890                      895
1326 Glu Ser Met Thr Glu Glu Thr Leu Lys Arg Ala Lys Glu Ile Gly Phe
1327                      900                      905                      910
1329 Ser Asp Lys Gln Ile Ser Lys Cys Leu Gly Leu Thr Glu Ala Gln Thr
1330                      915                      920                      925
1332 Arg Glu Leu Arg Leu Lys Lys Asn Ile His Pro Trp Val Lys Gln Ile
1333                      930                      935                      940
1335 Asp Thr Leu Ala Ala Glu Tyr Pro Ser Val Thr Asn Tyr Leu Tyr Val
1336 945                      950                      955                      960
1338 Thr Tyr Asn Gly Gln Glu His Asp Val Asn Phe Asp Asp His Gly Met
1339                      965                      970                      975
1341 Met Val Leu Gly Cys Gly Pro Tyr His Ile Gly Ser Ser Val Glu Phe
1342                      980                      985                      990
1344 Asp Trp Cys Ala Val Ser Ser Ile Arg Thr Leu Arg Gln Leu Gly Lys
1345                      995                      1000                      1005
1347 Lys Thr Val Val Val Asn Cys Asn Pro Glu Thr Val Ser Thr Asp Phe
1348 1010                      1015                      1020

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Input Set : A:\CRF19-2SEQLIST.txt
 Output Set: N:\CRF3\06142000\I585077.raw

1350 Asp Glu Cys Asp Lys Leu Tyr Phe Glu Glu Leu Ser Leu Glu Arg Ile
 E--> 1354 025 1025 1030 1035 1040
 1353 Leu Asp Ile Tyr His Gln Glu Ala Cys Gly Cys Ile Ile Ser Val
 1354 1045 1050 1055
 1356 Gly Gly Gln Ile Pro Asn Asn Leu Ala Val Pro Leu Tyr Lys Asn Gly
 1357 1060 1065 1070
 1359 Val Lys Ile Met Gly Thr Ser Pro Leu Gln Ile Asp Arg Ala Glu Asp
 1360 1075 1080 1085
 1362 Arg Ser Ile Phe Ser Ala Val Leu Asp Glu Leu Lys Val Ala Gln Ala
 1363 1090 1095 1100
 1365 Pro Trp Lys Ala Val Asn Thr Leu Asn Glu Ala Leu Glu Phe Ala Lys
 E--> 1366 105 1110 1115 1120
 1368 Ser Val Asp Tyr Pro Cys Leu Leu Arg Pro Ser Tyr Val Leu Ser Gly
 1369 1125 1130 1135
 1371 Ser Ala Met Asn Val Val Phe Ser Glu Asp Glu Met Lys Lys Phe Leu
 1372 1140 1145 1150
 1374 Glu Glu Ala Thr Arg Val Ser Gln Glu His Pro Val Val Leu Thr Lys
 1375 1155 1160 1165
 1377 Phe Val Glu Gly Ala Arg Glu Val Glu Met Asp Ala Val Gly Lys Asp
 1378 1170 1175 1180
 1380 Gly Arg Val Ile Ser His Ala Ile Ser Glu His Val Glu Asp Ala Gly
 E--> 1381 185 1190 1195 1200
 1383 Val His Ser Gly Asp Ala Thr Leu Met Leu Pro Thr Gln Thr Ile Ser
 1384 1205 1210 1215
 1386 Gln Gly Ala Ile Glu Lys Val Lys Asp Ala Thr Arg Lys Ile Ala Lys
 1387 1220 1225 1230
 1389 Ala Phe Ala Ile Ser Gly Pro Phe Asn Val Gln Phe Leu Val Lys Gly
 1390 1235 1240 1245
 1392 Asn Asp Val Leu Val Ile Glu Cys Asn Leu Arg Ala Ser Arg Ser Phe
 1393 1250 1255 1260
 1395 Pro Phe Val Ser Lys Thr Leu Gly Val Asp Phe Ile Asp Val Ala Thr
 E--> 1396 265 1270 1275 1280
 1398 Lys Val Met Ile Gly Glu Asn Val Asp Glu Lys His Leu Pro Thr Leu
 1399 1285 1290 1295
 1401 Asp His Pro Ile Ile Pro Ala Asp Tyr Val Ala Ile Lys Ala Pro Met
 1402 1300 1305 1310
 1404 Phe Ser Trp Pro Arg Leu Arg Asp Ala Asp Pro Ile Leu Arg Cys Glu
 1405 1315 1320 1325
 1407 Met Ala Ser Thr Gly Glu Val Ala Cys Phe Gly Glu Gly Ile His Thr
 1408 1330 1335 1340
 1410 Ala Phe Leu Lys Ala Met Leu Ser Thr Gly Phe Lys Ile Pro Gln Lys
 E--> 1411 345 1350 1355 1360
 1413 Gly Ile Leu Ile Gly Ile Gln Gln Ser Phe Arg Pro Arg Phe Leu Gly
 1414 1365 1370 1375
 1416 Val Ala Glu Gln Leu His Asn Glu Gly Phe Lys Leu Phe Ala Thr Glu
 1417 1380 1385 1390
 1419 Ala Thr Ser Asp Trp Leu Asn Ala Asn Asn Val Pro Ala Thr Pro Val
 1420 1395 1400 1405
 1422 Ala Trp Pro Ser Gln Glu Gly Gln Asn Pro Ser Leu Ser Ser Ile Arg

same
on seq. 2

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/585,077

DATE: 06/14/2000
 TIME: 11:51:02

Input Set : A:\CRF19-2SEQLIST.txt
 Output Set: N:\CRF3\06142000\I585077.raw

1423 1410 1415 1420
 1425 Lys Leu Ile Arg Asp Gly Ser Ile Asp Leu Val Ile Asn Leu Pro Asn
 E--> 1426 425 1430 1435 1440
 1428 Asn Asn Thr Lys Phe Val His Asp Asn Tyr Val Ile Arg Arg Thr Ala
 1429 1445 1450 1455
 1431 Val Asp Ser Gly Ile Pro Leu Leu Thr Asn Phe Gln Val Thr Lys Leu
 1432 1460 1465 1470
 1434 Phe Ala Glu Ala Val Gln Lys Ser Arg Lys Val Asp Ser Lys Ser Leu
 1435 1475 1480 1485
 1437 Phe His Tyr Arg Gln Tyr Ser Ala Gly Lys Ala Ala
 1438 1490 1495 1500
 1931 <210> SEQ ID NO: 12
 1932 <211> LENGTH: 1500
 1933 <212> TYPE: PRT
 1934 <213> ORGANISM: Homo sapiens
 W--> 1935 <400> SEQUENCE: 12
 E--> 1936 Met Thr Arg Lys Leu Thr Ala Phe Lys Val Val Arg Thr Leu Lys Thr
 1937 1 5 10 15
 1939 Gly Phe Gly Phe Thr Asn Val Thr Ala His Gln Lys Trp Lys Phe Ser
 1940 20 25 30
 1942 Arg Pro Gly Ile Arg Leu Leu Ser Val Lys Ala Gln Thr Ala His Ile
 1943 35 40 45
 1945 Val Leu Glu Asp Gly Thr Lys Met Lys Gly Tyr Ser Phe Gly His Pro
 1946 50 55 60
 1948 Ser Ser Val Ala Gly Glu Val Val Phe Asn Thr Gly Leu Gly Gly Tyr
 1949 65 70 75 80
 1951 Pro Glu Ala Ile Thr Asp Pro Ala Tyr Lys Gly Gln Ile Leu Thr Met
 1952 85 90 95
 1954 Ala Asn Pro Ile Ile Gly Asn Gly Gly Ala Pro Asp Thr Thr Ala Leu
 1955 100 105 110
 1957 Asp Glu Leu Gly Leu Ser Lys Tyr Leu Glu Ser Asn Gly Ile Lys Val
 1958 115 120 125
 1960 Ser Gly Leu Leu Val Leu Asp Tyr Ser Lys Asp Tyr Asn His Trp Leu
 1961 130 135 140
 1963 Ala Thr Lys Ser Leu Gly Gln Trp Leu Gln Glu Lys Val Pro Ala
 1964 145 150 155 160
 1966 Ile Tyr Gly Val Asp Thr Arg Met Leu Thr Lys Ile Ile Arg Asp Lys
 1967 165 170 175
 1969 Gly Thr Met Leu Gly Lys Ile Glu Phe Glu Gly Gln Pro Val Asp Phe
 1970 180 185 190
 1972 Val Asp Pro Asn Lys Gln Asn Leu Ile Ala Glu Val Ser Thr Lys Asp
 1973 195 200 205
 1975 Val Lys Val Tyr Gly Lys Gly Asn Pro Thr Lys Val Val Ala Val Asp
 1976 210 215 220
 1978 Cys Gly Ile Lys Asn Asn Val Ile Arg Leu Leu Val Lys Arg Gly Ala
 1979 225 230 235 240
 1981 Glu Val His Leu Val Pro Trp Asn His Asp Phe Thr Lys Met Glu Tyr
 1982 245 250 255
 1984 Asp Gly Ile Leu Ile Ala Gly Gly Pro Gly Asn Pro Ala Leu Ala Glu

same

see also pgs. 11, 12

invalid

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/585,077

DATE: 06/14/2000
 TIME: 11:51:02

Input Set : A:\CRF19-2SEQLIST.txt
 Output Set: N:\CRF3\06142000\I585077.raw

```

1985          260          265          270
1987 Pro Leu Ile Gln Asn Val Arg Lys Ile Leu Glu Ser Asp Arg Lys Glu
1988          275          280          285
1990 Pro Leu Phe Gly Ile Ser Thr Gly Asn Leu Ile Thr Gly Leu Ala Ala
1991          290          295          300
1993 Gly Ala Lys Thr Tyr Lys Met Ser Met Ala Asn Arg Gly Gln Asn Gln
1994 305          310          315          320
1996 Pro Val Leu Asn Ile Thr Asn Lys Gln Ala Phe Ile Thr Ala Gln Asn
1997          325          330          335
1999 His Gly Tyr Ala Leu Asp Asn Thr Leu Pro Ala Gly Trp Lys Pro Leu
2000          340          345          350
2002 Phe Val Asn Val Asn Asp Gln Thr Asn Glu Gly Ile Met His Glu Ser
2003          355          360          365
2005 Lys Pro Phe Phe Ala Val Gln Phe His Pro Glu Val Thr Pro Gly Pro
2006          370          375          380
2008 Ile Asp Thr Glu Tyr Leu Phe Asp Ser Phe Phe Ser Leu Ile Lys Lys
2009 385          390          395          400
2011 Gly Lys Ala Thr Thr Ile Thr Ser Val Leu Pro Lys Pro Ala Leu Val
2012          405          410          415
2014 Ala Ser Arg Val Glu Val Ser Lys Val Leu Ile Leu Gly Ser Gly Gly
2015          420          425          430
2017 Leu Ser Ile Gly Gln Ala Gly Glu Phe Asp Tyr Ser Gly Ser Gln Ala
2018          435          440          445
2020 Val Lys Ala Met Lys Glu Glu Asn Val Lys Thr Val Leu Met Asn Pro
2021          450          455          460
2023 Asn Ile Ala Ser Val Gln Thr Asn Glu Val Gly Leu Lys Gln Ala Asp
2024 465          470          475          480
2026 Thr Val Tyr Phe Leu Pro Ile Thr Pro Gln Phe Val Thr Glu Val Ile
2027          485          490          495
2029 Lys Ala Glu Gln Pro Asp Gly Leu Ile Leu Gly Met Gly Gly Gln Thr
2030          500          505          510
2032 Ala Leu Asn Cys Gly Val Glu Leu Phe Lys Arg Gly Val Leu Lys Glu
2033          515          520          525
2035 Tyr Gly Val Lys Val Leu Gly Thr Ser Val Glu Ser Ile Met Ala Thr
2036          530          535          540
2038 Glu Asp Arg Gln Leu Phe Ser Asp Lys Leu Asn Glu Ile Asn Glu Lys
2039 545          550          555          560
2041 Ile Ala Pro Ser Phe Ala Val Glu Ser Ile Glu Asp Ala Leu Lys Ala
2042          565          570          575
2044 Ala Asp Thr Ile Gly Tyr Pro Val Met Ile Arg Ser Ala Tyr Ala Leu
2045          580          585          590
2047 Gly Gly Leu Gly Ser Gly Ile Cys Pro Asn Arg Glu Thr Leu Met Asp
2048          595          600          605
2050 Leu Ser Thr Lys Ala Phe Ala Met Thr Asn Gln Ile Leu Val Glu Lys
2051          610          615          620
2053 Ser Val Thr Gly Trp Lys Glu Ile Glu Tyr Glu Val Val Arg Asp Ala
2054 625          630          635          640
2056 Asp Asp Asn Cys Val Thr Val Cys Asn Met Glu Asn Val Asp Ala Met
2057          645          650          655

```

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/585,077

DATE: 06/14/2000
 TIME: 11:51:02

Input Set : A:\CRF19-2SEQLIST.txt
 Output Set: N:\CRF3\06142000\I585077.raw

```

2059 Gly Val His Thr Gly Asp Ser Val Val Val Ala Pro Ala Gln Thr Leu
2060                      660                      665                      670
2062 Ser Asn Ala Glu Phe Gln Met Leu Arg Arg Thr Ser Ile Asn Val Val
2063                      675                      680                      685
2065 Arg His Leu Gly Ile Val Gly Glu Cys Asn Ile Gln Phe Ala Leu His
2066                      690                      695                      700
2068 Pro Thr Ser Met Glu Tyr Cys Ile Ile Glu Val Asn Ala Arg Leu Ser
2069 705                      710                      715                      720
2071 Arg Ser Ser Ala Leu Ala Ser Lys Ala Thr Gly Tyr Pro Leu Ala Phe
2072                      725                      730                      735
2074 Ile Ala Ala Lys Ile Ala Leu Gly Ile Pro Leu Pro Glu Ile Lys Asn
2075                      740                      745                      750
2077 Val Val Ser Gly Lys Thr Ser Ala Cys Phe Glu Pro Ser Leu Asp Tyr
2078                      755                      760                      765
2080 Met Val Thr Lys Ile Pro Arg Trp Asp Leu Asp Arg Phe His Gly Thr
2081                      770                      775                      780
2083 Ser Ser Arg Ile Gly Ser Ser Met Lys Ser Val Gly Glu Val Met Ala
2084 785                      790                      795                      800
2086 Ile Gly Arg Thr Phe Glu Glu Ser Phe Gln Lys Ala Leu Arg Met Cys
2087                      805                      810                      815
2089 His Pro Ser Ile Glu Gly Phe Thr Pro Arg Leu Pro Met Asn Lys Glu
2090                      820                      825                      830
2092 Trp Pro Ser Asn Leu Asp Leu Arg Lys Glu Leu Ser Glu Pro Ser Ser
2093                      835                      840                      845
2095 Thr Arg Ile Tyr Ala Ile Ala Lys Ala Ile Asp Asp Asn Met Ser Leu
2096                      850                      855                      860
2098 Asp Glu Ile Glu Lys Leu Thr Tyr Ile Asp Lys Trp Phe Leu Tyr Lys
2099 865                      870                      875                      880
2101 Met Arg Asp Ile Leu Asn Met Glu Lys Thr Leu Lys Gly Leu Asn Ser
2102                      885                      890                      895
2104 Glu Ser Met Thr Glu Glu Thr Leu Lys Arg Ala Lys Glu Ile Gly Phe
2105                      900                      905                      910
2107 Ser Asp Lys Gln Ile Ser Lys Cys Leu Gly Leu Thr Glu Ala Gln Thr
2108                      915                      920                      925
2110 Arg Glu Leu Arg Leu Lys Lys Asn Ile His Pro Trp Val Lys Gln Ile
2111                      930                      935                      940
2113 Asp Thr Leu Ala Ala Glu Tyr Pro Ser Val Thr Asn Tyr Leu Tyr Val
2114 945                      950                      955                      960
2116 Thr Tyr Asn Gly Gln Glu His Asp Val Asn Phe Asp Asp His Gly Met
2117                      965                      970                      975
2119 Met Val Leu Gly Cys Gly Pro Tyr His Ile Gly Ser Ser Val Glu Phe
2120                      980                      985                      990
2122 Asp Trp Cys Ala Val Ser Ser Ile Arg Thr Leu Arg Gln Leu Gly Lys
2123                      995                      1000                      1005
2125 Lys Thr Val Val Val Asn Cys Asn Pro Glu Thr Val Ser Thr Asp Phe
2126                      1010                      1015                      1020
2128 Asp Glu Cys Asp Lys Leu Tyr Phe Glu Glu Leu Ser Leu Glu Arg Ile
2129 025                      1030                      1035                      1040
E--> 2131 Leu Asp Ile Tyr His Gln Glu Ala Cys Gly Gly Cys Ile Ile Ser Val

```

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/585,077

DATE: 06/14/2000
 TIME: 11:51:02

Input Set : A:\CRF19-2SEQLIST.txt
 Output Set: N:\CRF3\06142000\I585077.raw

2132 1045 1050 1055
 2134 Gly Gly Gln Ile Pro Asn Asn Leu Ala Val Pro Leu Tyr Lys Asn Gly
 2135 1060 1065 1070
 2137 Val Lys Ile Met Gly Thr Ser Pro Leu Gln Ile Asp Arg Ala Glu Asp
 2138 1075 1080 1085
 2140 Arg Ser Ile Phe Ser Ala Val Leu Asp Glu Leu Lys Val Ala Gln Ala
 2141 1090 1095 1100
 2143 Pro Trp Lys Ala Val Asn Thr Leu Asn Glu Ala Leu Glu Phe Ala Lys
 E--> 2144 105 1110 1115 1120
 2146 Ser Val Asp Tyr Pro Cys Leu Leu Arg Pro Ser Tyr Val Leu Ser Gly
 2147 1125 1130 1135
 2149 Ser Ala Met Asn Val Val Phe Ser Glu Asp Glu Met Lys Lys Phe Leu
 2150 1140 1145 1150
 2152 Glu Glu Ala Thr Arg Val Ser Gln Glu His Pro Val Val Leu Thr Lys
 2153 1155 1160 1165
 2155 Phe Val Glu Gly Ala Arg Glu Val Glu Met Asp Ala Val Gly Lys Asp
 2156 1170 1175 1180
 2158 Gly Arg Val Ile Ser His Ala Ile Ser Glu His Val Glu Asp Ala Gly
 E--> 2159 185 1190 1195 1200
 2161 Val His Ser Gly Asp Ala Thr Leu Met Leu Pro Thr Gln Thr Ile Ser
 2162 1205 1210 1215
 2164 Gln Gly Ala Ile Glu Lys Val Lys Asp Ala Thr Arg Lys Ile Ala Lys
 2165 1220 1225 1230
 2167 Ala Phe Ala Ile Ser Gly Pro Phe Asn Val Gln Phe Leu Val Lys Gly
 2168 1235 1240 1245
 2170 Asn Asp Val Leu Val Ile Glu Cys Asn Leu Arg Ala Ser Arg Ser Phe
 2171 1250 1255 1260
 2173 Pro Phe Val Ser Lys Thr Leu Gly Val Asp Phe Ile Asp Val Ala Thr
 E--> 2174 265 1270 1275 1280
 2176 Lys Val Met Ile Gly Glu Asn Val Asp Glu Lys His Leu Pro Thr Leu
 2177 1285 1290 1295
 2179 Asp His Pro Ile Ile Pro Ala Asp Tyr Val Ala Ile Lys Ala Pro Met
 2180 1300 1305 1310
 2182 Phe Ser Trp Pro Arg Leu Arg Asp Ala Asp Pro Ile Leu Arg Cys Glu
 2183 1315 1320 1325
 2185 Met Ala Ser Thr Gly Glu Val Ala Cys Phe Gly Glu Gly Ile His Thr
 2186 1330 1335 1340
 2188 Ala Phe Leu Lys Ala Met Leu Ser Thr Gly Phe Lys Ile Pro Gln Lys
 E--> 2189 345 1350 1355 1360
 2191 Gly Ile Leu Ile Gly Ile Gln Gln Ser Phe Arg Pro Arg Phe Leu Gly
 2192 1365 1370 1375
 2194 Val Ala Glu Gln Leu His Asn Glu Gly Phe Lys Leu Phe Ala Thr Glu
 2195 1380 1385 1390
 2197 Ala Thr Ser Asp Trp Leu Asn Ala Asn Asn Val Pro Ala Asn Pro Val
 2198 1395 1400 1405
 2200 Ala Trp Pro Ser Gln Glu Gly Gln Asn Pro Ser Leu Ser Ser Ile Arg
 2201 1410 1415 1420
 2203 Lys Leu Ile Arg Asp Gly Ser Ile Asp Leu Val Ile Asn Leu Pro Asn
 E--> 2204 425 1430 1435 1440

*same
error*

RAW SEQUENCE LISTING DATE: 06/14/2000
 PATENT APPLICATION: US/09/585,077 TIME: 11:51:02

Input Set : A:\CRF19-2SEQLIST.txt
 Output Set: N:\CRF3\06142000\I585077.raw

2206 Asn Asn Thr Lys Phe Val His Asp Asn Tyr Val Ile Arg Arg Thr Ala
 2207 1445 1450 1455
 2209 Val Asp Ser Gly Ile Pro Leu Leu Thr Asn Phe Gln Val Thr Lys Leu
 2210 1460 1465 1470
 2212 Phe Ala Glu Ala Val Gln Lys Ser Arg Lys Val Asp Ser Lys Ser Leu
 2213 1475 1480 1485
 2215 Phe His Tyr Arg Gln Tyr Ser Ala Gly Lys Ala Ala
 2216 1490 1495 1500
 2644 <210> SEQ ID NO: 14
 2645 <211> LENGTH: 1500
 2646 <212> TYPE: PRT
 2647 <213> ORGANISM: Homo sapiens
 W--> 2648 <400> SEQUENCE: 14

15-16

2649 Met Thr Arg Ile Ile Thr Ala Phe Lys Val Val Arg Thr Leu Lys Thr
 2650 1 5 10 15
 2652 Gly Phe Gly Phe Thr Asn Val Thr Ala His Gln Lys Trp Lys Phe Ser
 2653 20 25 30
 2655 Arg Pro Gly Ile Arg Leu Leu Ser Val Lys Ala Gln Thr Ala His Ile
 2656 35 40 45
 2658 Val Leu Glu Asp Gly Thr Lys Met Lys Gly Tyr Ser Phe Gly His Pro
 2659 50 55 60
 2661 Ser Ser Val Ala Gly Glu Val Val Phe Asn Thr Gly Leu Gly Gly Tyr
 2662 65 70 75 80
 2664 Pro Glu Ala Ile Thr Asp Pro Ala Tyr Lys Gly Gln Ile Leu Thr Met
 2665 85 90 95
 2667 Ala Asn Pro Ile Ile Gly Asn Gly Gly Ala Pro Asp Thr Thr Ala Leu
 2668 100 105 110
 2670 Asp Glu Leu Gly Leu Ser Lys Tyr Leu Glu Ser Asn Gly Ile Lys Val
 2671 115 120 125
 2673 Ser Gly Leu Leu Val Leu Asp Tyr Ser Lys Asp Tyr Asn His Trp Leu
 2674 130 135 140
 2676 Ala Thr Lys Ser Leu Gly Gln Trp Leu Gln Glu Glu Lys Val Pro Ala
 2677 145 150 155 160
 2679 Ile Tyr Gly Val Asp Thr Arg Met Leu Thr Lys Ile Ile Arg Asp Lys
 2680 165 170 175
 2682 Gly Thr Met Leu Gly Lys Ile Glu Phe Glu Gly Gln Pro Val Asp Phe
 2683 180 185 190
 2685 Val Asp Pro Asn Lys Gln Asn Leu Ile Ala Glu Val Ser Thr Lys Asp
 2686 195 200 205
 2688 Val Lys Val Tyr Gly Lys Gly Asn Pro Thr Lys Val Val Ala Val Asp
 2689 210 215 220
 2691 Cys Gly Ile Lys Asn Asn Val Ile Arg Leu Leu Val Lys Arg Gly Ala
 2692 225 230 235 240
 2694 Glu Val His Leu Val Pro Trp Asn His Asp Phe Thr Lys Met Glu Tyr
 2695 245 250 255
 2697 Asp Gly Ile Leu Ile Ala Gly Gly Pro Gly Asn Pro Ala Leu Ala Glu
 2698 260 265 270
 2700 Pro Leu Ile Gln Asn Val Arg Lys Ile Leu Glu Ser Asp Arg Lys Glu
 2701 275 280 285

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/585,077

DATE: 06/14/2000

TIME: 11:51:03

Input Set : A:\CRF19-2SEQLIST.txt

Output Set: N:\CRF3\06142000\I585077.raw

```

2703 Pro Leu Phe Gly Ile Ser Thr Gly Asn Leu Ile Thr Gly Leu Ala Ala
2704      290      295      300
2706 Gly Ala Lys Thr Tyr Lys Met Ser Met Ala Asn Arg Gly Gln Asn Gln
2707 305      310      315      320
2709 Pro Val Leu Asn Ile Thr Asn Lys Gln Ala Phe Ile Thr Ala Gln Asn
2710      325      330      335
2712 His Gly Tyr Ala Leu Asp Asn Thr Leu Pro Ala Gly Trp Lys Pro Leu
2713      340      345      350
2715 Phe Val Asn Val Asn Asp Gln Thr Asn Glu Gly Ile Met His Glu Ser
2716      355      360      365
2718 Lys Pro Phe Phe Ala Val Gln Phe His Pro Glu Val Thr Pro Gly Pro
2719      370      375      380
2721 Ile Asp Thr Glu Tyr Leu Phe Asp Ser Phe Phe Ser Leu Ile Lys Lys
2722 385      390      395      400
2724 Gly Lys Ala Thr Thr Ile Thr Ser Val Leu Pro Lys Pro Ala Leu Val
2725      405      410      415
2727 Ala Ser Arg Val Glu Val Ser Lys Val Leu Ile Leu Gly Ser Gly Gly
2728      420      425      430
2730 Leu Ser Ile Gly Gln Ala Gly Glu Phe Asp Tyr Ser Gly Ser Gln Ala
2731      435      440      445
2733 Val Lys Ala Met Lys Glu Glu Asn Val Lys Thr Val Leu Met Asn Pro
2734      450      455      460
2736 Asn Ile Ala Ser Val Gln Thr Asn Glu Val Gly Leu Lys Gln Ala Asp
2737 465      470      475      480
2739 Thr Val Tyr Phe Leu Pro Ile Thr Pro Gln Phe Val Thr Glu Val Ile
2740      485      490      495
2742 Lys Ala Glu Gln Pro Asp Gly Leu Ile Leu Gly Met Gly Gly Gln Thr
2743      500      505      510
2745 Ala Leu Asn Cys Gly Val Glu Leu Phe Lys Arg Gly Val Leu Lys Glu
2746      515      520      525
2748 Tyr Gly Val Lys Val Leu Gly Thr Ser Val Glu Ser Ile Met Ala Thr
2749      530      535      540
2751 Glu Asp Arg Gln Leu Phe Ser Asp Lys Leu Asn Glu Ile Asn Glu Lys
2752 545      550      555      560
2754 Ile Ala Pro Ser Phe Ala Val Glu Ser Ile Glu Asp Ala Leu Lys Ala
2755      565      570      575
2757 Ala Asp Thr Ile Gly Tyr Pro Val Met Ile Arg Ser Ala Tyr Ala Leu
2758      580      585      590
2760 Gly Gly Leu Gly Ser Gly Ile Cys Pro Asn Arg Glu Thr Leu Met Asp
2761      595      600      605
2763 Leu Ser Thr Lys Ala Phe Ala Met Thr Asn Gln Ile Leu Val Glu Lys
2764      610      615      620
2766 Ser Val Thr Gly Trp Lys Glu Ile Glu Tyr Glu Val Val Arg Asp Ala
2767 625      630      635      640
2769 Asp Asp Asn Cys Val Thr Val Cys Asn Met Glu Asn Val Asp Ala Met
2770      645      650      655
2772 Gly Val His Thr Gly Asp Ser Val Val Val Ala Pro Ala Gln Thr Leu
2773      660      665      670
2775 Ser Asn Ala Glu Phe Gln Met Leu Arg Arg Thr Ser Ile Asn Val Val

```

RAW SEQUENCE LISTING DATE: 06/14/2000
 PATENT APPLICATION: US/09/585,077 TIME: 11:51:03

Input Set : A:\CRF19-2SEQLIST.txt
 Output Set: N:\CRF3\06142000\I585077.raw

```

2776          675          680          685
2778 Arg His Leu Gly Ile Val Gly Glu Cys Asn Ile Gln Phe Ala Leu His
2779          690          695          700
2781 Pro Thr Ser Met Glu Tyr Cys Ile Ile Glu Val Asn Ala Arg Leu Ser
2782 705          710          715          720
2784 Arg Ser Ser Ala Leu Ala Ser Lys Ala Thr Gly Tyr Pro Leu Ala Phe
2785          725          730          735
2787 Ile Ala Ala Lys Ile Ala Leu Gly Ile Pro Leu Pro Glu Ile Lys Asn
2788          740          745          750
2790 Val Val Ser Gly Lys Thr Ser Ala Cys Phe Glu Pro Ser Leu Asp Tyr
2791          755          760          765
2793 Met Val Thr Lys Ile Pro Arg Trp Asp Leu Asp Arg Phe His Gly Thr
2794          770          775          780
2796 Ser Ser Arg Ile Gly Ser Ser Met Lys Ser Val Gly Glu Val Met Ala
2797 785          790          795          800
2799 Ile Gly Arg Thr Phe Glu Glu Ser Phe Gln Lys Ala Leu Arg Met Cys
2800          805          810          815
2802 His Pro Ser Ile Glu Gly Phe Thr Pro Arg Leu Pro Met Asn Lys Glu
2803          820          825          830
2805 Trp Pro Ser Asn Leu Asp Leu Arg Lys Glu Leu Ser Glu Pro Ser Ser
2806          835          840          845
2808 Thr Arg Ile Tyr Ala Ile Ala Lys Ala Ile Asp Asp Asn Met Ser Leu
2809          850          855          860
2811 Asp Glu Ile Glu Lys Leu Thr Tyr Ile Asp Lys Trp Phe Leu Tyr Lys
2812 865          870          875          880
2814 Met Arg Asp Ile Leu Asn Met Glu Lys Thr Leu Lys Gly Leu Asn Ser
2815          885          890          895
2817 Glu Ser Met Thr Glu Glu Thr Leu Lys Arg Ala Lys Glu Ile Gly Phe
2818          900          905          910
2820 Ser Asp Lys Gln Ile Ser Lys Cys Leu Gly Leu Thr Glu Ala Gln Thr
2821          915          920          925
2823 Arg Glu Leu Arg Leu Lys Lys Asn Ile His Pro Trp Val Lys Gln Ile
2824          930          935          940
2826 Asp Thr Leu Ala Ala Glu Tyr Pro Ser Val Thr Asn Tyr Leu Tyr Val
2827 945          950          955          960
2829 Thr Tyr Asn Gly Gln Glu His Asp Val Asn Phe Asp Asp His Gly Met
2830          965          970          975
2832 Met Val Leu Gly Cys Gly Pro Tyr His Ile Gly Ser Ser Val Glu Phe
2833          980          985          990
2835 Asp Trp Cys Ala Val Ser Ser Ile Arg Thr Leu Arg Gln Leu Gly Lys
2836          995          1000          1005
2838 Lys Thr Val Val Val Asn Cys Asn Pro Glu Thr Val Ser Thr Asp Phe
2839          1010          1015          1020
2841 Asp Glu Cys Asp Lys Leu Tyr Phe Glu Glu Leu Ser Leu Glu Arg Ile
E--> 2842 025          1030          1035          1040
2844 Leu Asp Ile Tyr His Gln Glu Ala Cys Gly Gly Cys Ile Ile Ser Val
2845          1045          1050          1055
2847 Gly Gly Gln Ile Pro Asn Asn Leu Ala Val Pro Leu Tyr Lys Asn Gly
2848          1060          1065          1070

```


RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/585,077

DATE: 06/14/2000
 TIME: 11:51:03

Input Set : A:\CRF19-2SEQLIST.txt
 Output Set: N:\CRF3\06142000\I585077.raw

```

2850 Val Lys Ile Met Gly Thr Ser Pro Leu Gln Ile Asp Arg Ala Glu Asp
2851      1075      1080      1085
2853 Arg Ser Ile Phe Ser Ala Val Leu Asp Glu Leu Lys Val Ala Gln Ala
2854      1090      1095      1100
2856 Pro Trp Lys Ala Val Asn Thr Leu Asn Glu Ala Leu Glu Phe Ala Lys
E--> 2857 105      1110      1115      1120
2859 Ser Val Asp Tyr Pro Cys Leu Leu Arg Pro Ser Tyr Val Leu Ser Gly
2860      1125      1130      1135
2862 Ser Ala Met Asn Val Val Phe Ser Glu Asp Glu Met Lys Lys Phe Leu
2863      1140      1145      1150
2865 Glu Glu Ala Thr Arg Val Ser Gln Glu His Pro Val Val Leu Thr Lys
2866      1155      1160      1165
2868 Phe Val Glu Gly Ala Arg Glu Val Glu Met Asp Ala Val Gly Lys Asp
2869      1170      1175      1180
2871 Gly Arg Val Ile Ser His Ala Ile Ser Glu His Val Glu Asp Ala Gly
E--> 2872 185      1190      1195      1200
2874 Val His Ser Gly Asp Ala Thr Leu Met Leu Pro Thr Gln Thr Ile Ser
2875      1205      1210      1215
2877 Gln Gly Ala Ile Glu Lys Val Lys Asp Ala Thr Arg Lys Ile Ala Lys
2878      1220      1225      1230
2880 Ala Phe Ala Ile Ser Gly Pro Phe Asn Val Gln Phe Leu Val Lys Gly
2881      1235      1240      1245
2883 Asn Asp Val Leu Val Ile Glu Cys Asn Leu Arg Ala Ser Arg Ser Phe
2884      1250      1255      1260
2886 Pro Phe Val Ser Lys Thr Leu Gly Val Asp Phe Ile Asp Val Ala Thr
E--> 2887 265      1270      1275      1280
2889 Lys Val Met Ile Gly Glu Asn Val Asp Glu Lys His Leu Pro Thr Leu
2890      1285      1290      1295
2892 Asp His Pro Ile Ile Pro Ala Asp Tyr Val Ala Ile Lys Ala Pro Met
2893      1300      1305      1310
2895 Phe Ser Trp Pro Arg Leu Arg Asp Ala Asp Pro Ile Leu Arg Cys Glu
2896      1315      1320      1325
2898 Met Ala Ser Thr Gly Glu Val Ala Cys Phe Gly Glu Gly Ile His Thr
2899      1330      1335      1340
2901 Ala Phe Leu Lys Ala Met Leu Ser Thr Gly Phe Lys Ile Pro Gln Lys
E--> 2902 345      1350      1355      1360
2904 Gly Ile Leu Ile Gly Ile Gln Gln Ser Phe Arg Pro Arg Phe Leu Gly
2905      1365      1370      1375
2907 Val Ala Glu Gln Leu His Asn Glu Gly Phe Lys Leu Phe Ala Thr Glu
2908      1380      1385      1390
2910 Ala Thr Ser Asp Trp Leu Asn Ala Asn Asn Val Pro Ala Asn Pro Val
2911      1395      1400      1405
2913 Ala Trp Pro Ser Gln Glu Gly Gln Asn Pro Ser Leu Ser Ser Ile Arg
2914      1410      1415      1420
2916 Lys Leu Ile Arg Asp Gly Ser Ile Asp Leu Val Ile Asn Leu Pro Asn
E--> 2917 425      1430      1435      1440
2919 Asn Asn Thr Lys Phe Val His Asp Asn Tyr Val Ile Arg Arg Thr Ala
2920      1445      1450      1455
2922 Val Asp Ser Gly Ile Pro Leu Leu Thr Asn Phe Gln Val Thr Lys Leu

```

same

↓ FYI

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/585,077

DATE: 06/14/2000
TIME: 11:51:03

Input Set : A:\CRF19-2SEQLIST.txt
Output Set: N:\CRF3\06142000\I585077.raw

2923		1460		1465		1470										
2925	Phe	Ala	Glu	Ala	Val	Gln	Lys	Ser	Arg	Lys	Val	Asp	Ser	Lys	Ser	Leu
2926		1475		1480		1485										
2928	Phe	His	Tyr	Arg	Gln	Tyr	Ser	Ala	Gly	Lys	Ala	Ala				
2929		1490		1495		1500										

VERIFICATION SUMMARY

DATE: 06/14/2000

PATENT APPLICATION: US/09/585,077

TIME: 11:51:04

Input Set : A:\CRF19-2SEQLIST.txt

Output Set: N:\CRF3\06142000\I585077.raw

L:4 M:283 W: Missing Blank Line separator, <120> field identifier
L:6 M:283 W: Missing Blank Line separator, <130> field identifier
L:7 M:283 W: Missing Blank Line separator, <140> field identifier
L:8 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:11 M:283 W: Missing Blank Line separator, <160> field identifier
L:18 M:283 W: Missing Blank Line separator, <220> field identifier
L:21 M:283 W: Missing Blank Line separator, <400> field identifier
L:444 M:283 W: Missing Blank Line separator, <400> field identifier
L:638 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:2
M:332 Repeated in SeqNo=2
L:731 M:283 W: Missing Blank Line separator, <220> field identifier
L:734 M:283 W: Missing Blank Line separator, <400> field identifier
L:1157 M:283 W: Missing Blank Line separator, <400> field identifier
L:1351 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:4
M:332 Repeated in SeqNo=4
L:1444 M:283 W: Missing Blank Line separator, <220> field identifier
L:1447 M:283 W: Missing Blank Line separator, <220> field identifier
L:1451 M:283 W: Missing Blank Line separator, <400> field identifier
L:1454 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:1474 M:283 W: Missing Blank Line separator, <400> field identifier
L:1481 M:283 W: Missing Blank Line separator, <400> field identifier
L:1488 M:283 W: Missing Blank Line separator, <400> field identifier
L:1495 M:283 W: Missing Blank Line separator, <400> field identifier
L:1502 M:283 W: Missing Blank Line separator, <400> field identifier
L:1509 M:283 W: Missing Blank Line separator, <220> field identifier
L:1512 M:283 W: Missing Blank Line separator, <400> field identifier
L:1935 M:283 W: Missing Blank Line separator, <400> field identifier
L:1936 M:320 E: (1) Wrong Nucleic Acid Designator, NUMBER OF INVALID KEYS:1
L:2129 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:12
M:332 Repeated in SeqNo=12
L:2222 M:283 W: Missing Blank Line separator, <220> field identifier
L:2225 M:283 W: Missing Blank Line separator, <400> field identifier
L:2648 M:283 W: Missing Blank Line separator, <400> field identifier
L:2842 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:14
M:332 Repeated in SeqNo=14
L:2936 M:283 W: Missing Blank Line separator, <400> field identifier
L:2943 M:283 W: Missing Blank Line separator, <400> field identifier